

**This Page is Inserted by IFW Indexing and Scanning  
Operations and is not part of the Official Record**

**BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- BLACK BORDERS**
- IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- FADED TEXT OR DRAWING**
- BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- SKEWED/SLANTED IMAGES**
- COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- GRAY SCALE DOCUMENTS**
- LINES OR MARKS ON ORIGINAL DOCUMENT**
- REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- OTHER:** \_\_\_\_\_

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.**



**UNITED STATES PATENT AND TRADEMARK OFFICE**

**UNITED STATES DEPARTMENT OF COMMERCE**  
**United States Patent and Trademark Office**  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

|   |             |                      |                         |                  |
|---|-------------|----------------------|-------------------------|------------------|
| APPLICATION NO.                                 | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.     | CONFIRMATION NO. |
| 09/889,559                                      | 07/27/2001  | Jiro Kumakura        | 010885                  | 7491             |
| 23850   | 7590        | 08/13/2004           | EXAMINER                |                  |
| ARMSTRONG, KRATZ, QUINTOS, HANSON & BROOKS, LLP |             |                      | KLINGER, SCOTT M        |                  |
| 1725 K STREET, NW                               |             |                      | ART UNIT                | PAPER NUMBER     |
| SUITE 1000                                      |             |                      |                         | 2153             |
| WASHINGTON, DC 20006                            |             |                      | DATE MAILED: 08/13/2004 |                  |

Please find below and/or attached an Office communication concerning this application or proceeding.

| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|------------------------------|------------------------|---------------------|--|
|                              | 09/889,559             | KUMAKURA, JIRO      |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | Scott M. Klinger       | 2153                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 27 July 2001.

2a)  This action is **FINAL**.                            2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4)  Claim(s) 1-17 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5)  Claim(s) \_\_\_\_\_ is/are allowed.  
6)  Claim(s) 1-17 is/are rejected.  
7)  Claim(s) \_\_\_\_\_ is/are objected to.  
8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)  All    b)  Some \* c)  None of:

1.  Certified copies of the priority documents have been received.
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)  Notice of References Cited (PTO-892) .  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3)  Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date (27 Jul 2001).  
4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.  
5)  Notice of Informal Patent Application (PTO-152)  
6)  Other: \_\_\_\_.

**DETAILED ACTION**

Preliminary amendment (filed on 27 July 2001) has been entered. It is noted by the examiner that claim 8 has not been amended.

Claims 1-17 are pending.

***Priority***

A claim for foreign priority has been made. The effective filing date for subject matter in the application is 29 January 1999.

***Claim Rejections - 35 USC § 112***

Claims 10-14 and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 10 recites the limitation "*a compressing means selected from the above compressing means*" (preliminary amendment, page 11, lines 3-4). There is insufficient antecedent basis for this limitation in the claim. It is suggested by the examiner that the phrase "*the above*" be removed to overcome this rejection.

Claim 13 recites the limitation "*a compressing means selected from the above compressing means*" (page 37, lines 2-3). There is insufficient antecedent basis for this limitation in the claim. It is suggested by the examiner that the phrase "*the above*" be removed to overcome this rejection.

Claim 17 recites the limitation "*a compressing program selected from the above compressing programs*" (page 39, lines 23-25). There is insufficient antecedent basis for

this limitation in the claim. It is suggested by the examiner that the phrase “*the above*” be removed to overcome this rejection.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 6-9, and 15 are rejected under 35 U.S.C. 102(e) as being anticipated by Hejlsberg et al. (U.S. Patent Number 6,151,602, hereinafter “Hejlsberg”). Hejlsberg discloses a database system with methods providing a platform-independent self-describing data packet for transmitting information. Hejlsberg shows,

In referring to claims 1, 7, and 9,

- A data table generating step of generating a retrieval data table containing the retrieved data and a data attribute table containing attribute information of the retrieved data, in a memory area on a server side:

Hejlsberg, Fig. 5: *In response to the request, the provider accesses the data from the data source (step 502); proceed to construct data packet: add column descriptor information to the stream (step 503); processing actual data: loop through all data records of the result set and write out the corresponding field values (step 505)*

- A transmission data generating step of serializing all items contained in the data attribute table and retrieval data table into a single string;

Hejlsberg, Fig. 5: *Write special value to the stream for indicating the “end of stream”* (step 506)

- A control information adding step of adding control information corresponding to the transmission data, to a head of the transmission data;

Hejlsberg, Fig. 5: *Provider gathers “Optional Parameters” information (e.g., Indexes & Constraints) and add to stream* (step 504)

- A data transmitting step of transmitting the transmission data generated in the transmission data generating step, to the client machine:

Hejlsberg, Fig. 6: *Transmit to client* (step 601)

- A data table regenerating step of regenerating the data attribute table and the retrieval data table in a memory area on the client side, from the transmission data transmitted:

Hejlsberg, Fig. 6: *Set up local structures for receiving actual data into data store* (step 604)

- A data reading step of reading required data from the regenerated data attribute table and retrieval data table:

Hejlsberg, Fig. 6: *Processing actual data: loop through all data records of the data packet and write out to local data store* (step 605)

In referring to claim 6,

- A retrieval command generating step performed on the client machine, of generating a serialized retrieval command, a retrieval command data transmitting step of transmitting the retrieval command data to the server:

*“a client machine (first tier), which obtains data from a back-end data source (e.g., database server) by submitting a request (e.g., SQL query) to a middle tier. The middle tier, in turn, comprises a provider and a resolver.”* (Hejlsberg, col. 2, lines 60-64)

- A retrieval command generating step performed on the server side, of converting the retrieval command data into a retrieval command that performs the database retrieval:

*“The provider, in response to the request, will undertake the necessary steps to get the data from the data source (e.g., SQL database tables) located on a database server operating on the back end or third tier.”* (Hejlsberg, col. 2, line 64 – col. 3, line 1)

In referring to claim 8,

- The micro server generates and forwards a serialized retrieval command data made from the retrieval command sent by the client machine, and the main server converts the forwarded retrieval command data into a retrieval command thereby executing the database retrieval:

Hejlsberg, Fig. 5: *Client generates a request for data from a data source* (step 501); the client generates a retrieval command and sends it as a ‘serialized’ data packet to the database

In referring to claim 15,

- A computing device, a storing device, and a data input-output device capable of inputting and outputting data to and from the database server and the network:

Hejlsberg, Fig. 5: *Client generates a request for data from a data source* (step 501); Hejlsberg, Fig. 6: *Transmit to client* (step 601)

- Retrieval command generating program of converting retrieval command data inputted from the client-side micro server into a retrieval command for execution of database retrieval:

Hejlsberg, Fig. 5: *Client generates a request for data from a data source* (step 501)

- A data table generating program of generating a retrieval data table obtained by the database retrieval, in the storing device; a data attribute table generating program of generating a data attribute table containing description of data attribute of the retrieval data table, in the storing device:

Hejlsberg, Fig. 5: *In response to the request, the provider accesses the data from the data source* (step 502); *proceed to construct data packet: add column*

*descriptor information to the stream (step 503); processing actual data: loop through all data records of the result set and write out the corresponding field values (step 505)*

- A transmission data generating program of serializing all items in the retrieval data table and data attribute table into a single string, thereby generating a transmission data:

Hejlsberg, Fig. 5: *Write special value to the stream for indicating the “end of stream” (step 506)*

- A control information adding program of adding control information corresponding to the data, to a head of the transmission data:

Hejlsberg, Fig. 5: *Provider gathers “Optional Parameters” information (e.g., Indexes & Constraints) and add to stream (step 504)*

- A data exchange program of exchanging data with the database server:

A computer system in which data is exchanged between a client and a server inherently implies a data exchange program

- Data transmission-reception program for information exchange with the client-side micro server via the network:

Hejlsberg, Fig. 5: *Client generates a request for data from a data source (step 501); a computer network that transmits data from a client and receives data from a client inherently implies a program for information exchange*

- A computing device, a storing device, and a data input-output device capable of inputting and outputting data to and from the database server and the network:

Hejlsberg, Fig. 5: *Client generates a request for data from a data source (step 501); Hejlsberg, Fig. 6: Transmit to client (step 601)*

- A data table regenerating program of regenerating, in the storing device, the retrieval data table and the data attribute table from the transmission data and the control information received from the server-side micro server:

Hejlsberg, Fig. 6: *Set up local structures for receiving actual data into data store (step 604)*

- A retrieved data reading program of reading the retrieved data from the regenerated retrieval data table and the data attribute table.

Hejlsberg, Fig. 6: *Processing actual data: loop through all data records of the data packet and write out to local data store (step 605)*

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hejlsberg. Although Hejlsberg shows substantial features of the claimed invention, including the system of claim 1 (see 102 rejection above), Hejlsberg is silent as to the format(s) of the data in the tables. Hejlsberg does not explicitly show all of the items contained the data table extracted from the database and all of the items contained in the data attribute table are provided by text data. Nonetheless this feature is well known in the art and would have been an obvious implementation of the system disclosed by Hejlsberg.

Hejlsberg discloses that a Structured Query Language (SQL) server can be used as the database: “*a back-end data source (e.g., database server) by submitting a request (e.g., SQL query) ... data source (e.g., SQL database tables) located on a database server operating on the back end*” (Hejlsberg, col. 2, lines 61-67). The data in an SQL database can be text or images (Binary Large Object format); it can consist solely of text data or include images.

In referring to claim 4, a person of ordinary skill in the art would have readily recognized the desirability and advantages of implementing the system of Hejlsberg so as to use a database in which all of the items contained in the data attribute table are

provided by text data, in order to maintain a relatively small size for each entry in the database, to keep bandwidth usage at a minimum (i.e. a web forum/message-board that updates quickly).

In referring to claim 5, a person of ordinary skill in the art would have readily recognized the desirability and advantages of implementing the system of Hejlsberg so as to use a database in which an item in the retrieval data table extracted from the database contains data other than text data, in order to provide images for database entries that require them (i.e. a security database with photographs of authorized employees).

---

Claims 2, 3, 10, 11, 12, 14, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hejlsberg in view of Cogan et al. (U.S. Patent Number 5,406,280, hereinafter “Cogan”).

In referring to claim 2, Hejlsberg shows substantial features of the claimed invention, including the system of claim 1 (see 102 rejection above) and converting the table data into a stream of data. However, Hejlsberg does not show compressing the data before sending and decompressing the data after reception. Nonetheless this feature is well known in the art and would have been an obvious addition to the system disclosed by Hejlsberg as evidenced by Cogan.

In analogous art, Cogan discloses data retrieval system using compression scheme especially for serial data stream. Cogan shows: *“The present invention provides a system for compressing data for serial transmission ... and for decompressing the data at the receiving computer.”* (Cogan, col. 2, lines 11-16)

Given these teachings, a person of ordinary skill in the art would have readily recognized the desirability and advantages of modifying the output and input means of Hejlsberg so as to compress the data before sending and decompress the data after reception, such as taught by Cogan, in order to decrease bandwidth usage and increase the speed of transmission.

In referring to claim 3, Hejlsberg in view of Cogan shows,

- A compression determining step of determining whether or not the transmission data is to be compressed in accordance with the data characteristic of the transmission data; and a data compressing step of compressing the transmission data and including information on a method of the compression the in control information, if the compression determining step determines for the compression:  
*“Compression: Simple compression is performed by eliminating transmission of data for null-values and by making string and bytes columns variable length.”*  
(Hejlsberg, col. 7, lines 63-65); the system determines if null values exist and does not transmit said values if they do exist

---

In referring to claim 10, Hejlsberg shows substantial features of the claimed invention, including:

- Retrieval data table generating means of generating retrieval data table extracted by the retrieval, in a memory area:  
Hejlsberg, Fig. 6: *Processing actual data: loop through all data records of the data packet and write out to local data store (step 605)*
- Data attribute table generating means of generating data attribute table containing description on data attribute of the retrieval data table, in a memory area:  
Hejlsberg, Fig. 5: *In response to the request, the provider accesses the data from the data source (step 502); proceed to construct data packet: add column descriptor information to the stream (step 503); processing actual data: loop through all data records of the result set and write out the corresponding field values (step 505)*
- Transmission data generating means of serializing items in the data attribute table and retrieval data table into a single string:  
Hejlsberg, Fig. 5: *Write special value to the stream for indicating the “end of stream” (step 506)*

However, Hejlsberg does not show compressing the data before sending and

decompressing the data after reception. Nonetheless this feature is well known in the art and would have been an obvious addition to the system disclosed by Hejlsberg as evidenced by Cogan.

In analogous art, Cogan discloses data retrieval system using compression scheme especially for serial data stream. Cogan shows: *Cogan, col. 2, lines 11-16* (see full quote above)

Given these teachings, a person of ordinary skill in the art would have readily recognized the desirability and advantages of adapting the system of Hejlsberg so as to compress the data before sending and decompress the data after reception, such as taught by Cogan, in order to decrease bandwidth usage and increase the speed of transmission.

In referring to claim 11, Hejlsberg in view of Cogan shows,

- A transmission data processing program including data transmitting means of outputting the transmission data and the control information to the communication link thereby transmitting to the client machine:

Hejlsberg, Fig. 6: *Transmit to client* (step 601)

In referring to claim 12, Hejlsberg in view of Cogan shows,

- A transmission data processing program including data compressing means for the serialized transmission data, and decompressing means for the transmission data compressed by the compressing means:

*Cogan, col. 2, lines 11-16* (see full quote above)

In referring to claim 14, Hejlsberg in view of Cogan shows,

- Retrieval command data generating means of generating serializing the retrieval command transmitted from the client machine thereby generating a retrieval command data; and retrieval command regenerating means converting the retrieval command data into a retrieval command for execution of database retrieval:

Hejlsberg, Fig. 5: *Client generates a request for data from a data source* (step 501); the client generates a retrieval command and sends it as a ‘serialized’ data packet to the database

---

In referring to claim 16, although Hejlsberg shows substantial features of the claimed invention, including the system of claim 15 (see 102 rejection above), Hejlsberg does not show compressing the data before sending and decompressing the data after reception. Nonetheless this feature is well known in the art and would have been an obvious addition to the system disclosed by Hejlsberg as evidenced by Cogan.

However, Hejlsberg does not show compressing the data before sending and decompressing the data after reception. Nonetheless this feature is well known in the art and would have been an obvious addition to the system disclosed by Hejlsberg as evidenced by Cogan.

In analogous art, Cogan discloses data retrieval system using compression scheme especially for serial data stream. Cogan shows: *Cogan, col. 2, lines 11-16* (see full quote above)

Given these teachings, a person of ordinary skill in the art would have readily recognized the desirability and advantages of adapting the system of Hejlsberg so as to compress the data before sending and decompress the data after reception, such as taught by Cogan, in order to decrease bandwidth usage and increase the speed of transmission.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott M. Klinger whose telephone number is (703) 305-8285. The examiner can normally be reached on M-F 7:00am - 3:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Glenn Burgess can be reached on (703) 305-4792. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Scott M. Klinger  
Examiner  
Art Unit 2153

smk



CLINTON B. BURGESS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100